# Somerville High School



Symmes Maini & McKee Associates



February 11, 2016

# Preliminary Design Program Planning

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- 2.3 School Scheduling Methodology
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- 2.5 Teacher Planning
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# 1. INTRODUCTION

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SMMA INTRODUCTION

#### 1.1 STATEMENT OF INTEREST SUMMARY

The existing Somerville High School is located at 81 Highland Avenue, in Somerville, MA. The existing school was built over the course of many years, with the oldest portion dating back to 1895. The site measures approximately 13 acres around the high school, and is located on a shared parcel that also includes Somerville City Hall and the Somerville Main Public Library branch.

In April, 2013, the City of Somerville submitted a Statement of Interest (SOI) to the Massachusetts School Building Authority (MSBA) for the High School. At the November 19, 2014 Board of Directors meeting, the MSBA board voted to issue an invitation to the City to conduct a feasibility study for this Statement of Interest to identify and study possible solutions and, through a collaborative process with the MSBA, reach a mutually-agreed upon solution. The SOI focused on the replacement, renovation or modernization of aged and inoperable facility systems, and replacement or addition to obsolete buildings to provide for a full range of educational programs. Since the submission of the SOI, an evaluation of all major building systems has shown that the HVAC, plumbing, electrical, technology, fire alarm and emergency power systems are all at the end of their useful life. The existing 360,000 square foot building, with the oldest section dating back to 1895, is supported on conventional spread footings; aside from the most recent additions constructed in 1986, there is no lateral force resisting structural system in the building. The existing exterior wall system is a combination of uninsulated brick mass masonry walls and brick veneer walls over metal stud backup with limited insulation within the stud cavity. The existing building is completely noncompliant with the current energy code. The building is partially accessible but the third and fourth floors of the school are served by a single elevator that does not comply with current car size requirements. Asbestos in located throughout the building including behind the exterior brick veneer in the 1986 construction; see Section 4.9 for a detailed analysis. In addition, there are a number of general educational concerns in the building including: a geographic separation between the general academic and vocational portions of the comprehensive high school; classrooms not equipped for 21st century instruction; and a lack of differentiated learning environments. Additional existing conditions information is included in Section 4 and the complete SOI is included in Appendix 8.1.

#### 1.2 INVITATION TO FEASIBILITY STUDY

At the November 19, 2014 Board of Directors meeting, the MSBA board voted to issue an invitation to the City to conduct a feasibility study for this Statement of Interest to identify and study possible solutions and, through a collaborative process with the MSBA, reach a mutually-agreed upon solution. The invitation is included in Appendix 8.2.



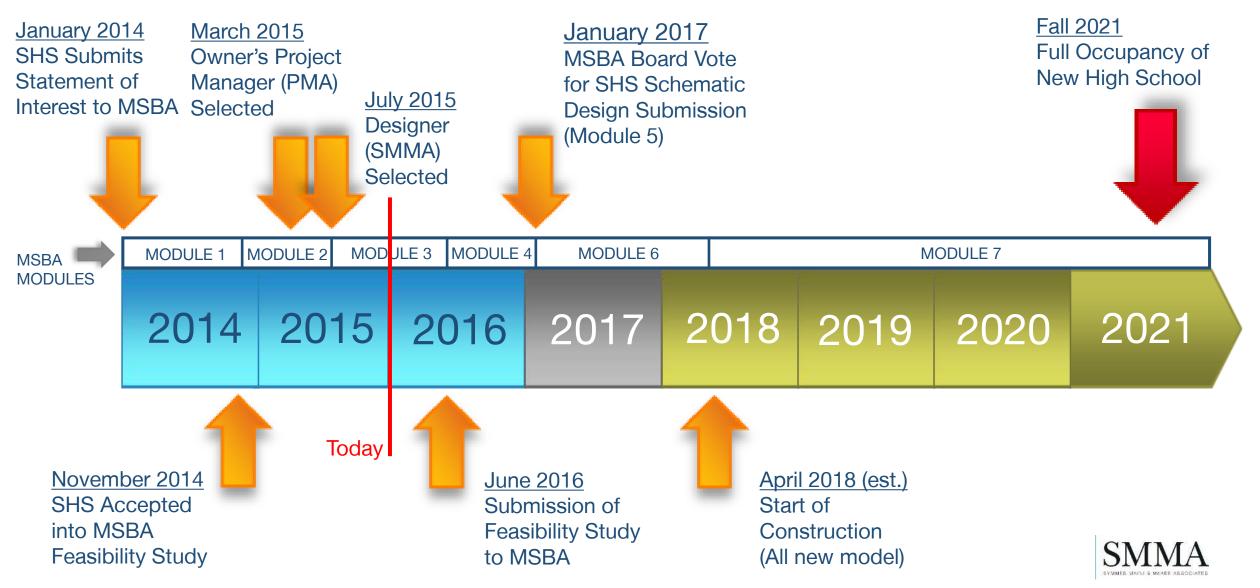
Section 1 - Introduction

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	Somerville High School Master Schedule		PMA MSBA Project Layout									
Active	fy Filanie	Original Start Duration										
	Somerville High School Master Schedule											
	OPM / Architect Contract (MSBA Module 2 "Forming the Team")											
	OPM			ихар орид на								
	MSBA Approval of PMA as OPM	0 8 09-Mar-15 A	15-Feb-15 A	Nedotation & Execution								
	OPM Contract Negotation & Execution	8 U9-Mar-15 A	22-Apr-15 A									
	PMA Develop A/E RFS Draft	4 20-Apr-15 A	23-Apr-15 A									
	City Review / Comment on A/E RFS Draft	2 24-Apr-15 A		Comment on Are RFIS Draft								
	MSBA Review/Approve A/E RFS Draft	5 29-Apr-15 A		W/Approvel A/E RFSi Dilatt								
	PMA Finalize A/E RFS Draft	1 11-May-15 A										
	A/E RFS Solicitation / Proposal Period	15 20-May-15 A	10-Jun-15 A	Solicitation / Proposal Period								
	City/PMA Review Submissions & Complete Checklist	5 10-Jun-15 A	18-Jun-15 A	NREVIEW Submissions & Complete Checkist								
	DSP Review A/E Choices 2 wks Prior to Meeting	10 18-Jun-15 A		eview A/E Choices 2 wits Prior to Meeting								
	MSBA Designer Selection Panel	0	07-Jul-15 A	Designer Selection Pahel								
	MSBA Designer Selection Panel Interviews	0	21-Jul-15 A	4 Désignet Sélection Planél InterVietos Contract Negotitation & Execution								
	A/E Contract Negotiation & Execution	10 22-Jul-15 A	04-Aug-15 A	Contract Negotiation & Execution								
	Feasibility Study / Preferred Option for Schematic (MSBA Module 3) Preliminary Design Program (PDP)											
	Existing Conditions Evaluation											
	Review/Update Existing Conditions Drawings	20 05-Aug-15 A	01-Sep-15 A	Review(Upplate Existing Conditions Drawings								
	Topographic Site Surveys	20 12-Aug-15 A		topographic \$tite Surveys								
	Site investigations	20 26-Aug-15 A		Sile investigations								
	Review Code/Structural Requirements	20 09-Sep-15 A	· ·	Revlew(Cdde)Strµctura Redutrements								
	Geotechnical Investigations	20 26-Oct-15 A	30-Oct-15 A	Geotechnidai libvestigations								
	Haz Mat Analysis	20 21-Sep-15 A	06-Nov-15 A	HaziMatAnaiysis								
	Preliminary Evaluation of Alternatives											
	Identify Preliminary Sites Locations	10 02-Sep-15 A		Identify Preisnifart Stes Lobations								
	Analysis of Sites for Feasibility	10 16-Sep-15 A	· ·	Analysis of Sites for Feasibility								
	Preliminary Plan and Site Diagrams	10 30-Sep-15 A		🔍 Preliminary Piak and Site Diagtama								
	SBC Approve Planning Diagrams Review/Update Potential Alternatives	5 14-Oct-15 A 10 14-Oct-15 A		Respective PranningCraggania								
	SBC Approve Site Selections & Alternatives	5 14-Oct-15 A										
	Cost Evaluation of Alternatives	15 17-Dec-15 A		Cost Evaluation of Alternatives								
	Site Development Requirements	10 17 200 1077	10 T CD 10 X									
	Review Zoning	15 30-Sep-15 A	20-Oct-15 A	Review Zpring								
	Wetlands/Conservation Requirements	15 30-Sep-15 A	20-Oct-15 A	Hair Réview Zpring Ali Wettande Clondertation Requirements								
	Amblent Noise Analysis	3 04-Nov-15 A	06-Nov-15 A	I I Amblent Noise Ahallysis I I I I I I I I I I I I I I I I I I								
	Geo - Environmental Analysis (Phase 1)	15 26-Oct-15 A		Geo -Environmental Analysis (Phase 1)								
	Orientation/Parking/Traffic Analysis	15 28-Oct-15 A										
	Site Program Development	20 19-Nov-15 A	16-Dec-15 A	Letter the Program Development								
	Educational Program & Space Summary		15.000 15.1	Soboq DeptReview/Revise Existing Ed Program w/Architect Input;								
	School Dept Review/Revise Existing Ed Program w/ Architect input Meetings with Staff and Teachers	40 23-Jul-15 A 20 17-Sep-15 A		Meetings with Statiand Teachers								
	Architect Review Space Summary	15 15-Oct-15 A		Alexandred Relations Surgerstand								
	Ed Program & Space Summary (First Draft - Outline)	15 04-Nov-15 A		Calified Program & Space Summary								
	School Committe Review Ed Plan	8 08-Jan-16 A		The School Committe Review Ed Plan								
	SBC, SC & BOA Ed Plan Comment Period	3 11-Jan-16 A		Hand Sec. \$C & EOA Ed Plan Comment Period								
	School Dept Finalize Ed Program	2 14-Jan-16 A		Schodi Clept Fikalize Ed Program								
	SBC Final Draft Review and Vote to Approve Ed Plan	3 18-Jan-16 A	20-Jan-16 A									
	PDP Report											
	Complie PDP Report	10 21-Jan-16 A		Compile RDR Report								
	Local Actions and Approval Certification for PDP Submit PDP Report to MSBA (Due 10 Weeks Prior to PSR Submission)	0 3 11-Feb-16 A	10-Feb-16 A	Cocial Actions and Approval Centrated to http://www.action.com/actions.co								
	Submit PDP Report to MSBA (Due 10 Weeks Phor to PSR Submission) MSBA Review Period	3 11-FeD-16 A 10 02-Mar-16	01-Mar-16 15-Mar-16	0 SDBMIPDP Heppin to MSBA (Due 10 Weeks Prior of PSR Submission)								
	District Response to MSBA PDP Comments		05-Apr-16	0								
	Preferred Schematic Report	13 10-14(a)-10	03-Api-16									
	PSR Submission											
	Green Design Charrette Meeting	3 06-Apr-16	08-Apr-16	14 Green Design Charlette Meeting								
	Kickoff Meeting with MSBA	5 06-Apr-16	12-Apr-16	0 kickof Meeting with MSSA								
	Update Design Program	5 06-Apr-16	12-Apr-16	oli i i i i i i i i i i i i i i i i i i								
	Update Existing Conditions Evaluation	5 06-Apr-16	12-Apr-16	5 Upplate Existing Conditions Evaluation								
	Identify High Performance Objectives	3 11-Apr-16	13-Apr-16	5 14 14 14 14 14 14 14 14 14 14								
	Further Development of 3 Options	10 06-Apr-16	19-Apr-16									
	Project Baseline Bar Remaining Work 🔶	<ul> <li>Milestone</li> </ul>	Dana 1 of 0									
	Actual Work Critical Remaining Work	<ul> <li>Annescotte</li> </ul>	Page 1 of 2									
"	Chucai Remaining Work											
<u> </u>				l.								

## 1.6 Project Schedule



Preliminary Design Program (PDP) - Submit March 1<sup>st</sup> 2016

Conceptual Cost estimates by Designer (SMMA) with Owner's Project Manager (OPM – PMA) support & review

- 1. School Building Committee (SBC) vote on full report
- 2. School Committee Chair's approval and signature
- 3. Superintendent's approval and signature
- 4. Mayor's approval and signature



Preferred Schematic Report (PSR) - Submit June 1<sup>st</sup> 2016

Cost estimates by SMMA & PMA

- 1. SBC vote on full report
- 2. School Committee Chair's approval and signature
- 3. Superintendent's approval and signature
- 4. Mayor's approval and signature
- 5. Board of Aldermen vote on funding ballot question



Schematic Design (SD) - Submit November 28<sup>th</sup> 2016

Cost estimates by SMMA & PMA

- 1. SBC vote on full submission
- 2. School Committee Chair's approval and signature
- 3. Superintendent's approval and signature
- 4. Mayor's approval and signature
- 5. Board of Aldermen vote on funding full project cost



Design Development (DD) - Submit July 5<sup>th</sup> 2017

Select Construction Management team (IG approval)

Cost estimates by SMMA & CM

1. SBC vote on full submission



Construction Documentation (CD) – Complete April 11<sup>th</sup> 2018

Cost estimates by SMMA & CM at 60% and 90%

Early construction or procurement packages by SMMA & Construction Management team (TBD)

1. SBC vote on full submission



# 2. EDUCATIONAL PROGRAM

- 2.1 Grade and School Configuration Policy
- 2.2 Class Size Policy
- 2.3 School Scheduling Methodology
- 2.4 Teaching Methodology and Structure
- 2.5 Teacher Planning
- 2.6 Pre-kindergarten
- 2.7 Kindergarten
- 2.8 Lunch Programs
- 2.9 Technology Instruction Policies and Program Requirements
- 2.10 Visual Art Programs

#### SMMA

Section 2 Educational Programming

#### EDUCATIONAL PROGRAM

#### 2.1 GRADE AND SCHOOL CONFIGURATION POLICIES

A. Current grade configuration

Somerville High School currently serves students in grades 9-12. The ages of students at SHS range from 13 to 22 years old. The current SHS Grade 9-12 configuration includes a small group of special education students whose IEPs call for education until they are 22 years old. They belong to either the Life Skills program or to the SHIP program which services students with complex medical/nealth issues.

#### B. Proposed grade configurations to be considered

While no changes are planned to the existing 9-12 grade configuration for the comprehensive curriculum at SHS, the district's special education day/alternative junior high school and high school (Next Wave - grades 6-8; and Full Circle grades 9-12) are planned to occupy a portion of the new Somerville High School design as a separate educational program located in a substantially separate space within the building that includes a separate entrance. Students who currently attend Next Wave and Full Circle are housed in a separate building, the Edgerly, which is a 15-minute walk from Somerville High School. The design of the school is to serve 60% students on IEPs and 40% students who are at risk and need an alternative education model. Although some Full Circle students are independent enough to take classes in the CTE program at SHS or to participate in sports and extracurricular activities at SHS, the sheer distance between the buildings and commute time serves as a barrier for this to happen on any regular basis. Our current proposal aims to locate Next Wave/Full Circle within the new SHS building so that this group of students, if their education plans allow for it, can benefit from a more comprehensive school experience by having easy access to CTE programs, sports programs, clubs and extracurricular activities, a full-time nurse, and ELL services.

#### C. Advantages of proposed grade configuration

I. Describe District's Approach to Facilitating Student Transitions

A transition plan is in place for rising 8th grade students throughout the district to visit Somerville High School and to attend a formal transition orientation during the summer months. These transitional experiences have been successful in helping SHS staff identify the academic, social and emotional needs of rising 8th graders so that they are able to make a more seamless transition to the 9th grade. Somerville High School also offers a Ninth Grade Experience (NGE) designed to provide a strong support structure to ninth graders as they ease into high school.

Ninth grade teachers function as a team and meet two times her week to determine



- 2.1 Grade and School Configuration Policy
- 2.2 Class Size Policy
- 2.3 School Scheduling Methodology

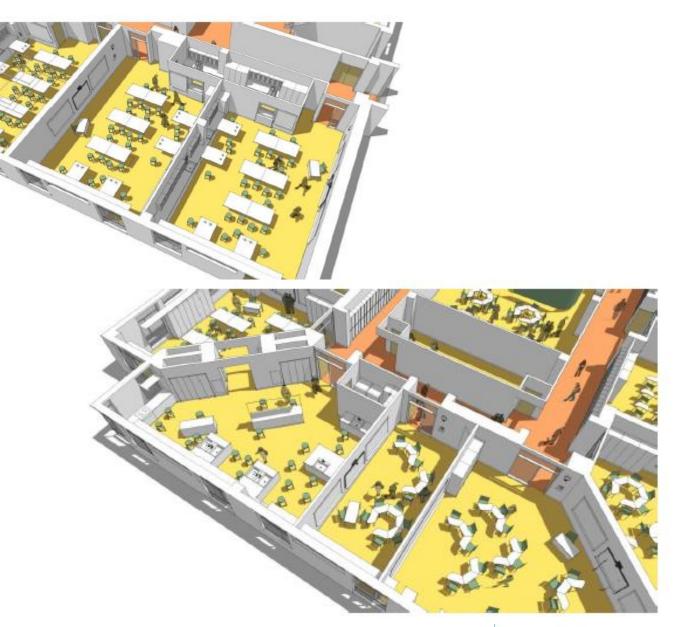


- 2.4 Teaching Methodology and Structure
- 2.5 Teacher Planning
- 2.6 Pre-kindergarten
- 2.7 Kindergarten
- 2.8 Lunch Programs
- 2.9 Technology Instruction Policies and Program Requirements
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Blook	Start	End	Monday	Tuesday	Wednesday	Thursday	Friday
1	7:55	9:02	A1	A2	A3	A4	B4
2	9:06	10:01	B1	D2	B2	B3	C4
3	10:05	11:00	C1	Rotating Extension Block	C2	C3	D4
4	11:04 11:34 12:04	11:34 12:04 12:34	D1	E2	D3	E3	E4
5	12:38	1:33	E1	F1	F2	F3	F4
6	1:37	2:32	G1	G2	Advisory/Common Plan. Time/Assemblies	G3	G4

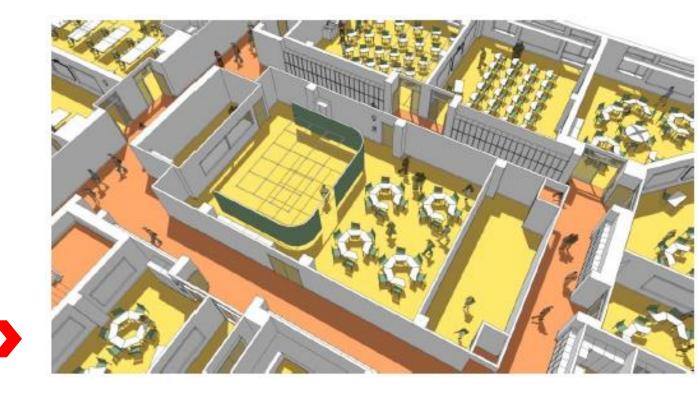


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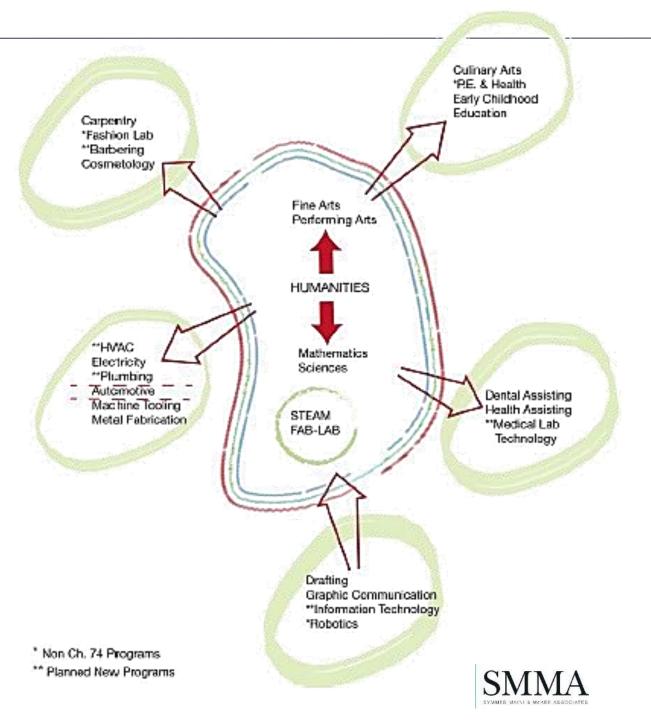


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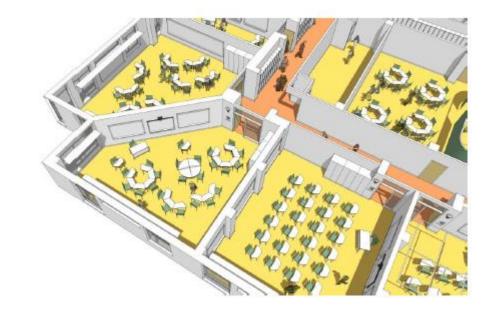


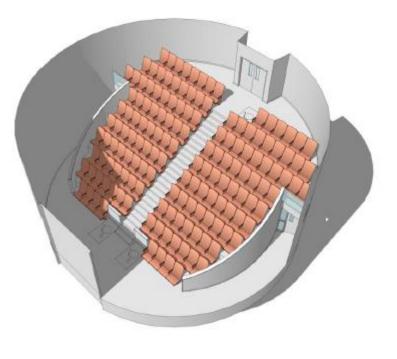


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# 2. Next Wave Alternative School EDUCATIONAL PROGRAM

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2.18	Security and Visual Access Requirements
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(sub-section headings analogous to Somerville High School Educational Program)



# 3. INITIAL SPACE SUMMARY

- 3.1 Space Summary Template
- 3.2 Narrative description of the variances between the Districts proposed program and the MSBA guidelines
- 3.3 Scaled floor plans of the Existing Facility

#### 3.1 SUMMARY

The Initial Space Summary was developed to address the goals and vision of the Educational Program through a series of interviews with the District administration and the High School administration, teachers, staff, and students. This section includes the Initial Space Summary.

There were 17 meetings conducted between September 18 and September 30, 2015 that included 37 individual participants. The meeting reports, located in Appendix 8.4 of this report are a record of those discussions. They do not represent a promise of inclusion in the project but rather participants' desires as well as attitudes towards organization and pedagogy for teaching and learning.



# 3.1 Space Summary - All New Construction

								PROPOSED					·				
Somerville High School	Existing Conditions			Existing to Remain/Renovated			New			Total				MSBA Guidelines (refer to MSBA Educational Program & Space Standard Guidelines)			
ROOM TYPE	ROOM NFA <sup>1</sup>	# OF RMS	area totais	ROOM NFA <sup>1</sup>	# OF RMS	area totals	ROOM NFA <sup>1</sup>	# OF RMS	area totals	ROOM NFA <sup>1</sup>	# OF RMS	area totals	Ch. 74 Requirements	ROOM NFA <sup>1</sup>	# OF RMS	area totals	Comments
RE ACADEMIC SPACES			59,494			0			69,580			69,580				68,170	# of RMS based on FTE Students w/o NWFC
Classroom - General	varies	54	34,794				850	42	35,700	850	42	35,700		850	47	39,950	825 SF min - 950 SF max
Classroom - ESL	varies	5	4,286				850	3	2,550	850	3	2,550					
Teacher Planning Small Group Seminar (20-30 seats)	varies	12	3,389				850 425	5 4	4,250 1,700	850 425	5 4	4,250 1,700		100 500	47 4	4,700 2,000	
Large Group Instruction (80-100 seats)							1,800	1	1,800	1,800	1	1,800					
Lecture Hall/Mini-Theater (200 seats)			10.000				2,600	1	2,600	2,600	1	2,600					
Science Classroom / Lab	varies	13	12,339				1,440	12	17,280	1,440	12	17,280		1,440	13		3 x85% ut=20 Seats-1 per /day/student
Prep Room	varies	8	1,633				400	6	2,400	400	8	2,400		200	13 1	2,600	
Central Chemical Storage Rm	105		105				200		200	200	1	200		200	1	200	
Computer Labs	varies	3	1,998														
Language Lab	950	1	950				1,100	1	1,100	1,100	1	1,100					
CIAL EDUCATION			5,282			0			19,959			19,959				16,110	# of RMS based on Total Student Population w/ NWFC
Self-Contained SPED	see below													950	11	10,450	assumed 8% of pop. In self-contained SPED
Self-Contained SPED Toilet							60	2	120	60	2	120		60	11	660	
Life Skills Classroom	981	1	981				1,500	1	1,500	1,500	1	1,500					
Shared Kitchenette							200	1	200	200	1	200					
'SHIP" Medically Fragile Student Classroom	1,175	1	1,175				1,500	1	1,500	1,500	1	1,500					
ASD Classroom w/ Breakout - Moderate							850	1	850	850	1	850					
Quiet Room							150	1	150	150	1	150					
ASD Classroom w/ Breakout - Moderate							850	1	850	850	1	850					
Study Skills Classroom							425	1	425	425	1	425					
Therapeutic Classroom							425	1	425	425	1	425					
PT/OT/Speech Sensory Room							425	1	425	425	1	425					
Transition Skills Classroom (for 18-22 year old students)	297	1	297				425	1	425	425	1	425					
Resource Room	varies	3	1,835				425	4	1,700	425	4	1,700		500	5	2,500	
Small Group Room	150	1	150				425	4	1,700	425	4	1,700		500	5	2,500	1/2 size Geril Cim.
SPED Office - Adj Counselor	varies	3	358				200	3	600	200	3	600					
SPED Office - Department Head	40.0		400				150	1	150	150	1	150					
SPED Office - Workroom	486	1	486				425	1	425	425	1	425					
Next Wave/Full Circle Program							405		0.400	405		0.400					
FC Classrooms							425 425	8	3,400	425 425	8	3,400 1,700					
NW Classrooms								4	1,700	425	4						
NWFC Reception NWFC Clinical Counselor Office							400 120	2	400 240	400	1	400 240					
NWFC Clinical Courseior Office							120	1	240 150	120	4	240 150					
NWFC Director Office NWFC Aide Workstation							100		100	54	•	150					
NWFC Alde Workstation NWFC Crisis Counselor Office							120	2	240	54 120	י ר	54 240					
NWFC Crisis Counselor Office NWFC Nurse Station							200	4	240	200	41	240					
NWFC Nurse Station NWFC Conference Room (20 seats)							425		200 425	425	4	200 425					
nivero Gonerence Room (20 seats)				1			420		420	420		+20					1

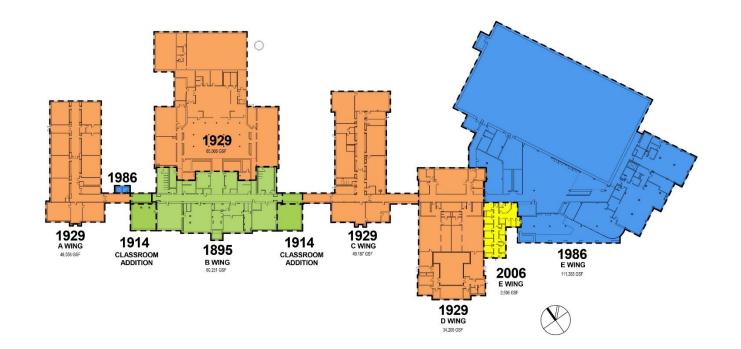
# 3.1 Space Summary – Addition/Renovation

								PROPOSED										
Somerville High School Existing Conditions			ions	Existing to Remain/Renovated			New			Total				MSBA Guidelines (refer to MSBA Educational Program & Space Standard Guidelines)				
ROOM TYPE	ROOM NFA <sup>1</sup>	#OFRMS	area totals	ROOM NFA <sup>1</sup>	# OF RMS	area totals	ROOM NFA <sup>1</sup>	# OF RMS	area totals	ROOM NFA <sup>1</sup>	# OF RMS	area totals	Ch. 74 Requirements	Room NFA <sup>1</sup>	# OF RMS	area totals	Comments	
RE ACADEMIC SPACES			59,494			28,900			40,680			69,580				68,170	# of RMS based on FTE Students w/o NWFC	
Classroom - General	varies	54	34,794	850	24	20,400	850	18	15,300	850	42	35,700		850	47	39,950		
Classroom - ESL	varies	5	4,286	850	3	2,550	0	0		850	3	2,550						
Teacher Planning	varies	12	3,389	850	5	4,250	0	0		850	5	4,250		100	47	4,700		
Small Group Seminar (20-30 seats)	varies	12	3,308	425	4	1,700	0	0	-	425	4	1,700		500	4	2,000		
				72.7		1,700	1,800	4	1,800	1,800		1,800				2,000		
Large Group Instruction (80-100 seats)							2,600		2,600		1	2,600						
Lecture Hall/Mini-Theater (200 seats) Science Classroom / Lab		40	40.000	1.440	0		2,600	1		2,600	1			1,440	49	10 700		
	varies	13	12,339	1,440	0	-			17,280	2,880	12	17,280			13 13	18,720	3 x85% ut=20 Seats-1 per /day/student	
Prep Room	varies	8	1,633	200	U	-	200	12	2,400	400	•	2,400		200		2,600		
Central Chemical Storage Rm	105	1	105				200	1	200	200	1	200		200	1	200		
Computer Labs	varies	3	1,998	1														
Language Lab	950	1	950				1,100	1	1,100	1,100	1	1,100						
ECIAL EDUCATION			5,282			3,409			16,550			19,959				16,110	# of RMS based on Total Student Population w/ NWFC	
Self-Contained SPED	see below		0,202			0,400			10,000			10,000		950	11	10,450		
Self-Contained SPED Toilet	ace below						60	2	120	60	2	120		60	11	660	assumed one of pop. In self-contained on ED	
Life Skills Classroom	981	1	981				1,500	÷.	1,500	1,500		1,500				000		
Shared Kitchenette	801		801				200		200	200	1	200						
"SHIP" Medically Fragile Student Classroom	1,175	1	1,175				1,500		200	1,500	1	1,500						
ASD Classroom w/ Breakout - Severe	1,175		1,175								1							
Quiet Room							850		850	850		850 150						
							150	1	150	150	1							
ASD Classroom w/ Breakout - Moderate							850	1	850	850	1	850						
Study Skills Classroom							425	1	425	425	1	425						
Therapeutic Classroom							425	1	425	425	1	425						
PT/OT/Speech Sensory Room							425	1	425	425	1	425						
Transition Skills Classroom (for 18-22 year old students)	297	1	297				425	1	425	425	1	425						
Resource Room	varies	3	1,835	1			425	4	1,700	425	4	1,700		500	5		1/2 size Geni, Cirm.	
Small Group Room	150	1	150				425	4	1,700	425	4	1,700		500	5	2,500	1/2 size Genil Cirm.	
SPED Office - Adj Counselor	varies	3	358				200	3	600	200	3	600						
SPED Office - Department Head				1			150	1	150	150	1	150						
SPED Office - Workroom	486	1	486				425	1	425	425	1	425						
Next Wave/Full Circle Program																		
FC Classrooms				425	4	1,700	425	4	1,700	425	8	3,400						
NW Classrooms	1						425	4	1,700	425	4	1,700						
NWFC Reception				400	1	400				400	1	400						
NWFC Clinical Counselor Office	1			120	2	240	0	0	-	120	2	240						
NWFC Director Office				150	1	150	0	0		150		150						
NWFC Aide Workstation				54	1	54	0	0	-	54	1	54						
NWFC Crisis Counselor Office	1			120	2	240	0	0	-	120	2	240						
NWFC Crisis Counselor Office NWFC Nurse Station	1			200	4	240	U	U	-	200	2	240 200						
nwro nuise station				200	1	200				200		200						

A.

# 4. EVALUATION OF EXISTING CONDITIONS

- 4.1 Existing Site Conditions
- 4.2 Existing Building Conditions
- 4.3 Existing Structural System
- 4.4 Existing Fire Protection System
- 4.5 Existing Plumbing System
- 4.6 Mechanical System
- 4.7 Existing Electrical System
- 4.8 Existing Food Service Conditions
- 4.9 Hazardous Materials Report
- 4.10 Traffic Report
- 4.11 Geo-Environmental Report (Phase 1)
- 4.12 Preliminary Geotechnical Report
- 4.13 Site Environmental Noise Analysis
- 4.14 Code Compliance Consideration Report



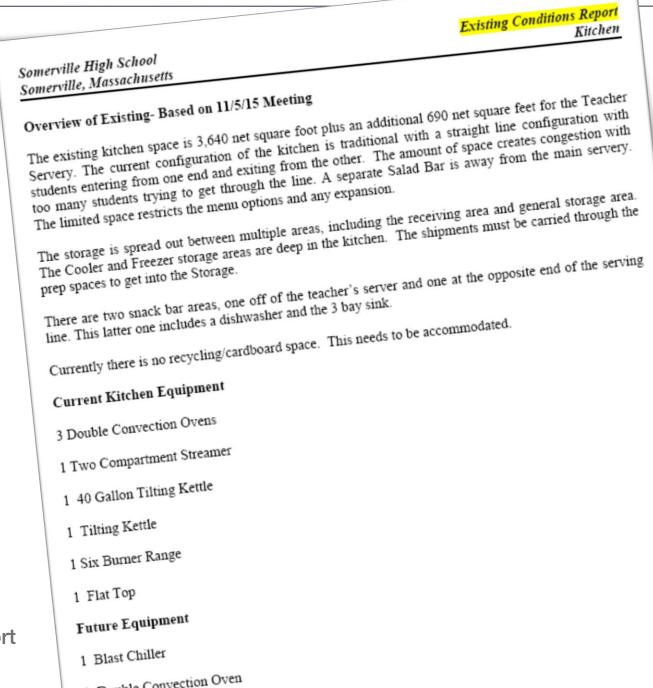


#### **EVALUATION OF** 4. EXISTING CONDITIONS

- 4.1 **Existing Site Conditions**
- 4.2 **Existing Building Conditions**
- 4.3 **Existing Structural System**
- 4.4 **Existing Fire Protection System**
- 4.5 Existing Plumbing System
- 4.6 Mechanical System
- 4.7 Existing Electrical System
- Existing Food Service Conditions 4.8



- 4.9 Hazardous Materials Report
- 4.10 **Traffic Report**
- 4.11 Geo-Environmental Report (Phase 1)
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CDW CONSULTANTS, INC.

HAZARDOUS MATERIALS SUMMARY REPORT Somerville High School 81 Highland Avenue Somerville, Massachusetts

#### Prepared for

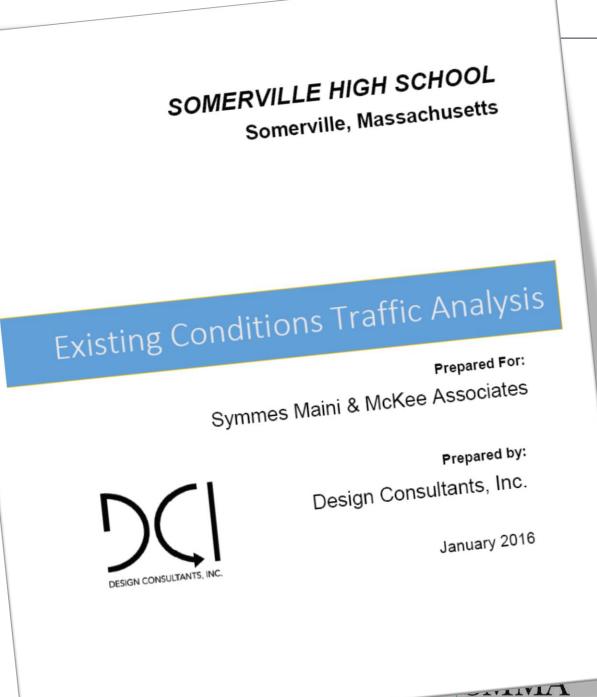
Symmes Maini & Mckee 1000 Massachusetts Avenue Cambridge, MA 02138

November 2015

CDW Project # 1491.0

## 4. EVALUATION OF EXISTING CONDITIONS

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CDW CONSULTANTS, INC.

PHASE I ENVIRONMENTAL SITE ASSESSMENT (ASTM E 1527-13)

> Somerville High School 81 Highland Avenue Somerville, Massachusetts

> > November 30, 2015

Prepared for:

Symmes Maini and Mckee 1000 Massachusetts Avenue Cambridge, Massachusetts

CDW Project #1491.00

# 4. EVALUATION OF EXISTING CONDITIONS

- 4.1 Existing Site Conditions
- 4.2 Existing Building Conditions
- 4.3 Existing Structural System
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### **EVALUATION OF** 4. **EXISTING** CONDITIONS

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- Code Compliance Consideration Report 4.14



17 Brian Road Lancaster, MA 01523 978.870.5674 rcarasitti@bfacode.com

January 29, 2016 Matthew Rice Symmes Maini & McKee 1000 Massachusetts Avenue Cambridge, MA 02138 Somerville High School Feasibility Study Code Compliance Considerations Report The Feasibility Study is addressing the existing Somerville High School building located at 82 Highland Street. More Dear Mr. Rice: specifically, scenarios are being studied and considered including: 1. Code Upgrade Option (Alternative 0) – This scenario considers code minimum upgrades to effectively operational restore and upgrade the existing building based on code requirements. Under this scenario there Renovation Option (Alternative 1) – This scenario includes all efforts in Alternative 0 plus reconfiguration of are no changes in use, additions or reconfigured spaces. existing spaces to address educational needs. Under this scenario there may be changes in use or additions, and reconfiguration of space is possible, including new systems such as HVAC, core electrical and core plumbing. Renovation and Possible Change in Use and Addition Options (Alternatives 2 through 4) – These scenarios include all efforts in Alternative 1 but more extensive (Level 3 Alterations, Change in Use and Additions). There are multiple distinct laws and regulations that are applicable to construction projects for existing buildings. Each is must be reviewed independently to identify "retroactive provisions" and "triggering provisions" based on proposed work. APPLICABLE CODES The following primary codes are applicable to this project: Accessibility - Massachusetts Architectural Access Board, 521-CMR and the Americans with Disabilities Act

Guidelines (2010 ADAAG).

# 5. SITE DEVELOPMENT REQUIREMENTS

- 5.1 Existing Site Plan
- 5.2 Site Development Requirements





# 6. PRELIMINARY EVALUATION OF ALTERNATIVES

- 6.1 School Assignment Practices and Available Space
- 6.2 Regionalizing or Tuition Agreements with Adjacent School Districts
- 6.3 Leasing, Renting, Acquisition of Existing Buildings for School Use
- 6.4 Project Goals
- 6.5 Site Alternatives
- 6.6 Construction Alternates including cost Estimate and Schedules

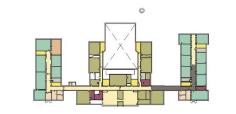


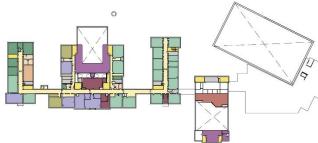


#### PROGRAM PLAN LEGEND

- ADMINISTRATION / GUIDANCE / STUDENT SERVICES / NURSE \_\_\_\_ HEALTH & FITNESS
- BUILDING EQUIPMENT
- CAFETERIA & CIRCULATION
- CHAPTER 74
- CLASSROOM & GENERAL EDUCATION SUPPORT
- COMMUNITY USE
- CUSTODIAL / MAINTENANCE / STORAGE

KITCHEN / SERVERY PHYSICAL EDUCATION & SPORT SUPPORT SPECIAL EDUCATION VERTICAL CIRCULATION VOCATIONAL & TECHNOLOGY



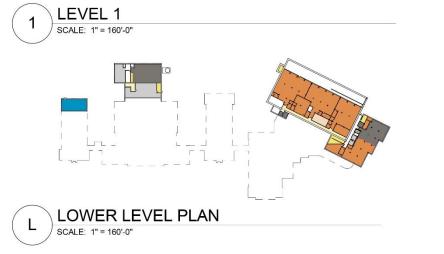


# Alt 0 &1

Alternative 0 – Code Upgrade & Repair Only

Alternative 1 – Full Gut Renovation, No New Additions

Both Alternatives Involve Phased Construction





LEVEL 2

SCALE: 1" = 160'-0"

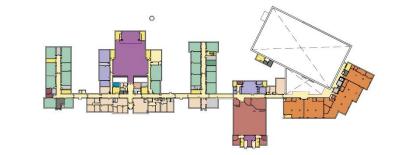
LEVEL 4

SCALE: 1" = 160'-0"

4

3

2







# Alternate 0

PROS

- Cost
- Duration

#### CONS

- The completed construction would not accommodate the current or future curriculum.
- No space or flexibility is provided for the projected growth in student population.



# Alternate 1

#### PROS

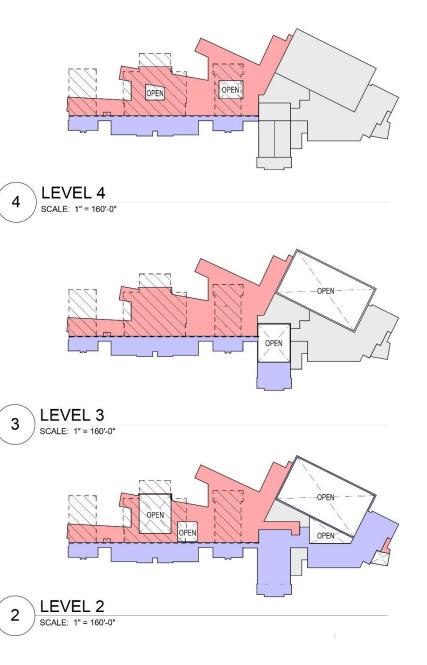
- Cost
- Completely renewed school with modern & functional systems
- Potential for improved energy conservation and lower operating costs
- Some response to current
   educational programming needs

#### CONS

- Neither current nor future curriculum are fully accommodated.
- Neither space nor flexibility provided for the projected growth in student population.
- Less potential for meeting community design and image goals given the ability to only refresh the existing exterior envelope.
- Complicated construction phasing
- Long construction duration
- Swing space is required
- Internal and external construction congestion







# Alt 2

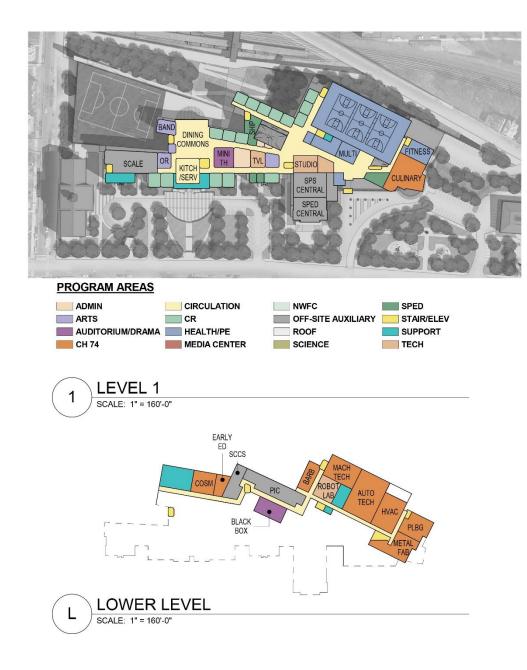
Alternative 2 – Addition / Renovation

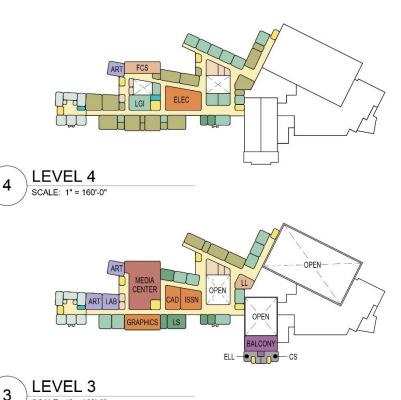
Renovate 1986 CTE Wing & Southern Portions of 1895/1929 Classrooms

New Auditorium & Cafeteria

**Phased Construction** 







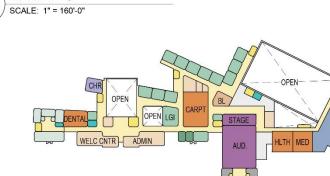
## Alt 2

Alternative 2 – Addition / Renovation

Renovate 1986 CTE Wing & Southern Portions of 1895/1929 Classrooms

New Auditorium & Cafeteria

**Phased Construction** 



LEVEL 2

SCALE: 1" = 160'-0"

2



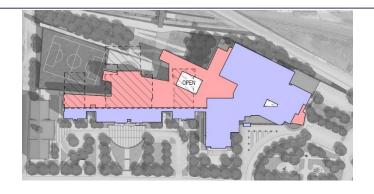
OCKEE



# Alternate 2

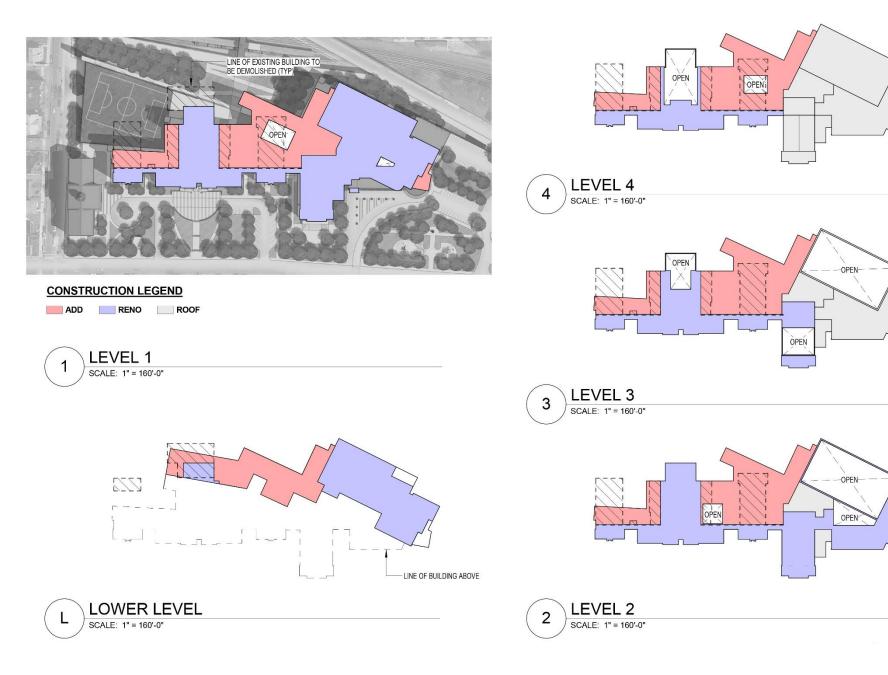
PROS

- Completely renewed school, leveraging the most recent construction on site for renovation economy
- Potential energy conservation and lower operating costs
- Response to current educational programming needs
- Full accommodation of current and future curriculum
- Space and flexibility is provided for the projected growth in student population
- Potential for meeting community design and image goals
- Preserves the historic assets of the highest-value construction facing the main lawn.



- Third highest cost (3 of 8)
- Complicated construction phasing
- Long construction duration
- Swing space is required
- Internal and external construction congestion





# Alt 3

Alternative 3 – Addition / Renovation

Renovate 1986 CTE Wing & Southern Portions of 1895/1929 Classrooms

**Renovate Auditorium** 

New Cafeteria



# Alternate 3

### PROS

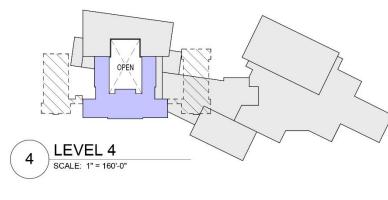
- Completely renewed school, leveraging the most recent construction on site for renovation economy
- Potential for energy conservation and lower operating costs
- Response to current educational programming needs
- Full accommodation of current and future curriculum
- Space and flexibility is provided for the projected growth in student population
- Potential for meeting community design and image goals
- Preserves the historic assets of the highest-value construction facing the main lawn

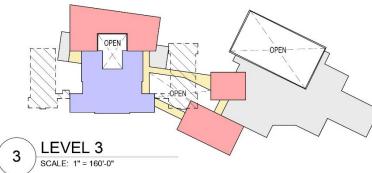
- Cost
- Complicated construction phasing
- Long construction duration
- Swing space is required
- Internal and external construction congestion

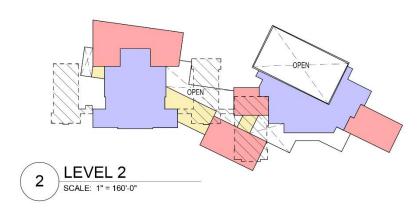












# Alt 4

Alternative 4 – Addition / Renovation

Concourse Approach

Enclosed / Open Central Circulation and Activity Space – Incorporates Cafeteria

Renovate 1986 CTE Wing & 1895/1929 B Wing

**Renovate Auditorium** 



# Alternate 4

### PROS

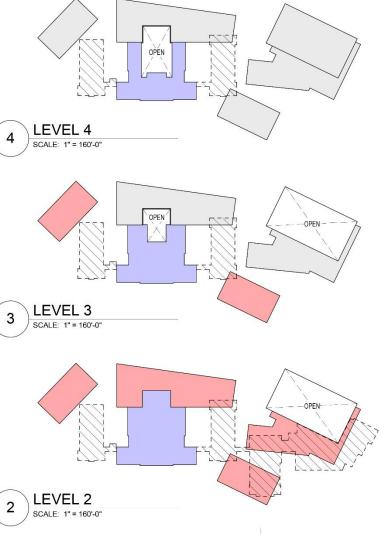
- Completely renewed school, leveraging the most recent construction on site for renovation economy
- Potential for energy conservation and lower operating costs
- Response to current educational programming needs
- Full accommodation of current and future curriculum
- Space and flexibility is provided for the projected growth in student population
- Potential for meeting community design and image goals

- Cost
- Complicated construction phasing
- Long construction duration
- Swing space is required
- Internal and external construction congestion









# Alt 4a

Alternative 4a – Addition / Renovation

**Campus Approach** 

Renovate 1986 Gymnasium & 1895 Building

**Renovate Auditorium** 

New Cafeteria

New Disconnected Buildings



# Alternate 4a

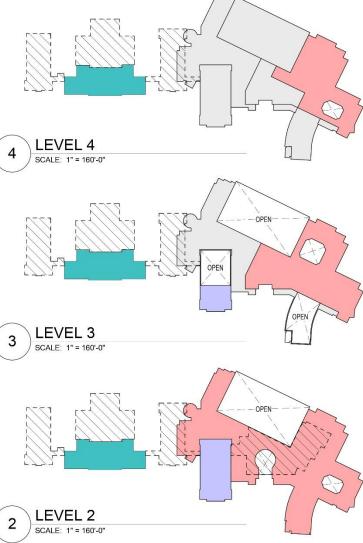
### PROS

- Completely renewed school.
- Potential for energy conservation and lower operating costs
- Response to current educational programming needs
- Full accommodation of current and future curriculum
- Space and flexibility is provided for the projected growth in student population
- Potential for meeting community design and image goals
- Greater ability to isolate operations of individual buildings for improved security and energy consumption during after-hours use.

- Cost
- Complicated construction phasing
- Long construction duration
- Swing space is required
- Internal and external construction congestion
- Maintaining a secure campus is more complicated due to multiple buildings and multiple entry points.
- Increased grossing requirements associated with multiple buildings to account for additional stairs, elevators, toilet rooms and similar support services.
  - Disconnected buildings compromise day-to-day operations of the school, with the potential to reinforce curriculum separation, rather than unification.







# Alt 4b

Alternative 4b – Addition / Renovation

### **Build HS to East Site**

Enclosed / Open Central Circulation and Activity Space – Incorporates Cafeteria

Renovate 1986 Field House & CTE Spaces below Wing & D Wing (1929 War Memorial)



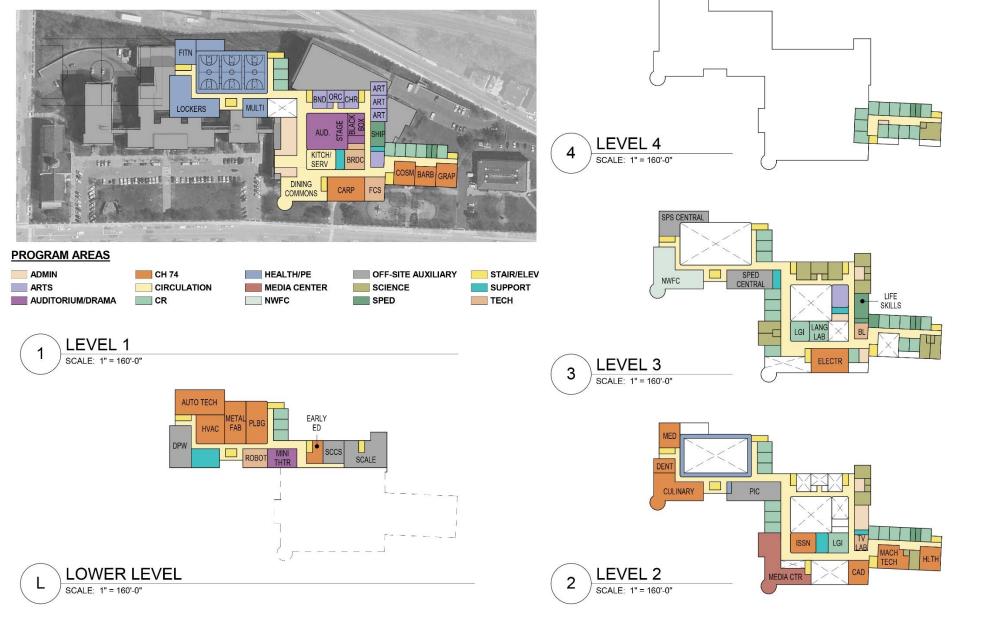
# Alternate 4b

PROS

- Completely renewed school.
- Potential for energy conservation and lower operating costs
- Response to current educational programming needs
- Full accommodation of current and future curriculum
- Space and flexibility is provided for the projected growth in student population
- Potential for meeting community design and image goals
- Simplified phasing approach by building new addition on a relatively open portion of the site.
- Allows for a potential future addition connection to the Somerville Public Library Main Branch building

- Cost
- Long construction duration
- Swing space is required for the heavy vocational shops given the extent of proposed construction in the E Wing.
- External construction congestion





# Alt 5

Alternative 5 – New Construction

Demolish Existing High School and Build Completely New on the Existing High School Site



# Alternate 5

### PROS

- Completely new school
- Simplified construction
- Greatest potential energy conservation and lowest operating cost
- Response to current educational programming needs
- Full accommodation of current and future curriculum
- Space and flexibility is provided for the projected growth in student population
- Potential for meeting community design and image goals

- Cost
- Complicated construction phasing
- Long construction duration
- Swing space is required
- External construction congestion
- No indoor track program given the new, smaller gymnasium size.





LEVEL 1

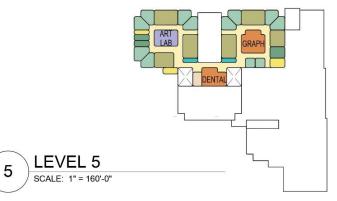
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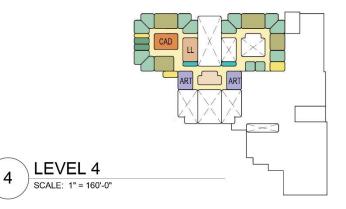


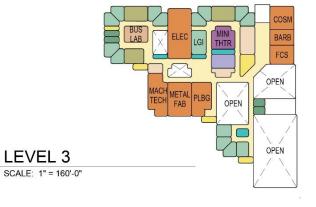
### PROGRAM AREAS

ADMIN ARTS AUDITORIUM/DRAMA CH 74 CIRCULATION CR HEALTH/PE MEDIA CENTER NWFC OFF-SITE AUXILIARY SCIENCE SPED STAIR/ELEV SUPPORT TECH

3







# Alt 6

Alternative 6 – New Construction

Demolish DPW Structures and Build New at Franey Road Site



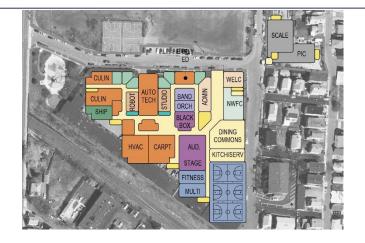
# Alternate 6

### PROS

- Completely new school
- Greatest potential energy conservation and lowest operating cost
- Response to current educational programming needs
- Full accommodation of current and future curriculum
- Space and flexibility is provided for the projected growth in student population
- Potential for meeting community design and image goals
- No swing space is required

- Cost
- Complicated construction involving underground parking garage below the entire footprint of the school
- Longest overall project schedule
- External construction congestion
- No indoor track program given the new, smaller gymnasium size





# Thank you!

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